

Thin and Automated Blanket Lamination and Encapsulation Systems (TABLES), Phase I

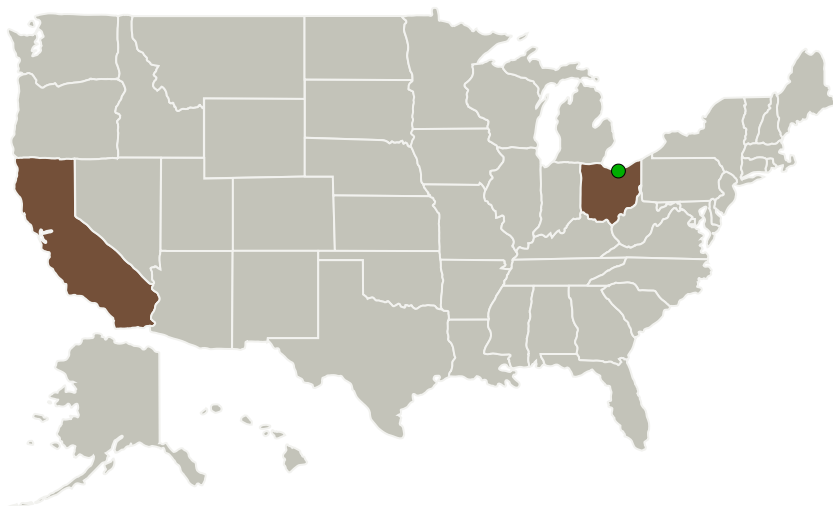
Completed Technology Project (2014 - 2014)




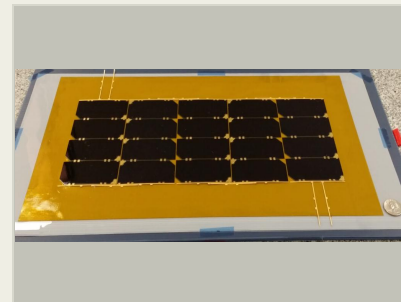
Project Introduction

Flexible photovoltaic array technologies require very thin and precisely controlled deposition of the polymeric films used to fabricate them. In most flexible blanket architectures, optically transparent silicones are utilized in the fabrication of the arrays, however due to their rheology and processing conditions there are limitations to how thin they can be applied. In this proposal, Vanguard proposes Thin and Automated Blanket Lamination and Encapsulation Systems (TABLES) that utilize automated drawdown methods and rheology control to render flexible blankets approaching 700 W/kg and only 13 mils thick (including cells). Further, the TABLES concept is easily adapted to a number of substrates and superstrates, rendering "LEO to GEO" packaging and automation simply through appropriate substrate choice.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Vanguard Space Technologies, Inc	Lead Organization	Industry	San Diego, California
 Glenn Research Center(GRC)	Supporting Organization	NASA Center	Cleveland, Ohio



Thin and Automated Blanket Lamination and Encapsulation Systems (TABLES) Project Image

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Primary U.S. Work Locations

California

Ohio

Project Transitions

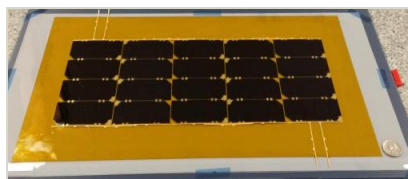
June 2014: Project Start

December 2014: Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/139688>)

Images



Project Image

Thin and Automated Blanket Lamination and Encapsulation Systems (TABLES) Project Image (<https://techport.nasa.gov/image/136940>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Vanguard Space Technologies, Inc

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

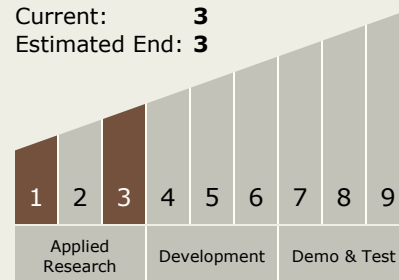
Carlos Torrez

Principal Investigator:

Matthew Wrosch

Technology Maturity (TRL)

Start: **1**
Current: **3**
Estimated End: **3**



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Technology Areas

Primary:

- TX03 Aerospace Power and Energy Storage
 - └ TX03.1 Power Generation and Energy Conversion
 - └ TX03.1.1 Photovoltaic

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System